THE STORY OF THE PLANE

The modern Plane is the product of Evolution. In this short story you can follow the stages of improvement and realize what man has accomplished through the centuries.

We must go to the very beginning of civilization, as our present day Plane has evolved from the Chisel. The Chisel in its earliest form was nothing more than a stone sharpened at one end. Tools of this kind have been discovered in use as far back as 4000 B.C.

It is probable that the Hebrews developed the first Plane as they have been credited with the placing of a sharp stone through a block of wood made smooth on the bottom. The stone was held by a wedge. Fig. 1.

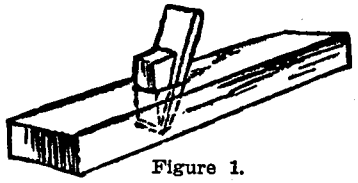

Figure 1.

Later metal became known to the Hebrews which they substituted for the sharp stone.

The Romans used a Plane about 50 A.D., which had an open mouth to allow shavings to come out. This was the first Plane to have this feature.

In the ruins of Pompeii (about 79 A.D.) a Plane of this type was discovered.

Very little improvement was made in the Plane until the early part of 1700, when an iron was placed in front of the cutter which served to break the chips or curl the shavings. This without question was an important advancement. A little later a convenient handle was added. Fig. 2.

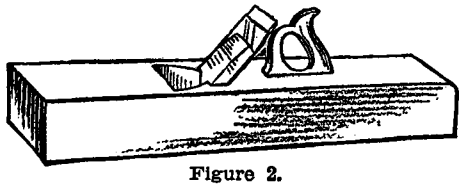

Figure 2.

This type of Plane was used for many years and we know of the manufacture of such a Plane in the United States in 1828.

The first invention of importance occurred in 1827 and was made by H. Knowles. His patent was a Plane of cast iron. This Plane had the advantage of lightness, no warping, a true working surface and less wear on the sole. It also used the old method of fastening the cutter by the wooden wedge. Fig. 3.

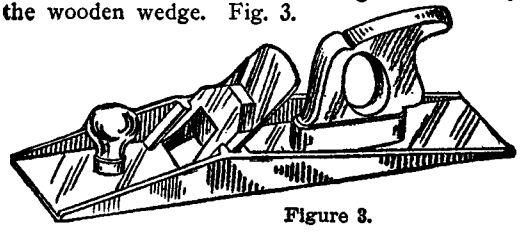

Figure 3.

In 1843 a patent was issued to W. Foster for an improvement on the Knowles cast iron Plane. This was an attempt to provide an adjustment to vary the thickness of the shaving. A block connected to a threaded screw held in a square pocket was intended to regulate the shaving.

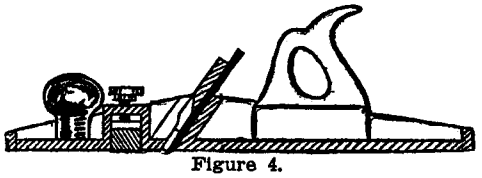

Figure 4.

A patent was awarded to L. Sanford in 1844 for a longitudinal adjustment of the Plane. Fig. 5.

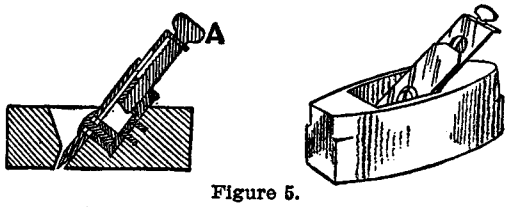

Figure 5.

In 1854 a patent was issued to W. S. Loughborough for an improved method of fastening the cutter. The first important departure from the age old method of fastening the cutter by wedge. Fig. 6.

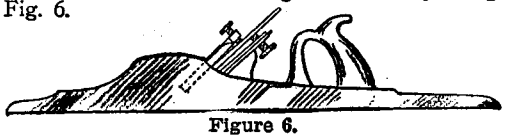

Figure 6.

To Leonard Bailey is due more credit than to any other person for improving the Plane to its present day usefulness.

The first patent was awarded to him in 1858. This invention was on a wooden bottom Plane having a cammed lever for fastening the cutter. Fig. 7.

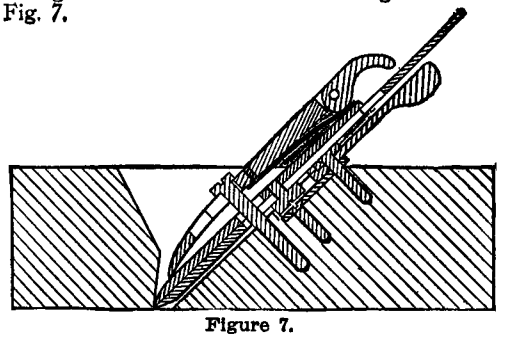

Figure 7.

In 1867 an important improvement was made by Leonard Bailey in his invention of the longitudinal adjustment. Fig. 8.

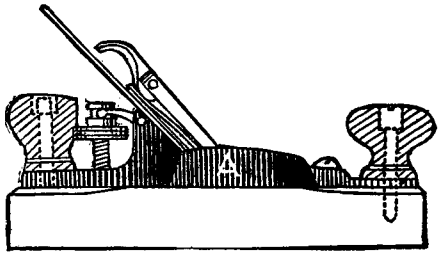

Figure 8.

The adjusting nut was in the vertical position but was soon changed to the horizontal position.

Soon after he invented a Plane with an iron body and an iron adjustable cutter seat or frog which supported the thin steel cutter.

At this time he was engaged in the manufacture of Planes on a small scale in Boston, Massachusetts, but in 1869 sold out his business and practically all his inventions to the Stanley Rule & Level Company of New Britain, Connecticut. He was thereafter employed by them as the head of their Plane Department.

A great number of inventions for new devices on Planes appeared the latter part of 1800 but although they are more or less important in showing the development of the Plane none were of a permanent nature.

Bailey's claim to distinction was that he saw clearly the desirability of a thin steel cutter of uniform thickness, which could be kept in condition by honing only and whose original bevel could therefore be more easily maintained. He was the first man to invent a Plane in which such a cutter could be used to advantage. His inventions while few in number were of practical value and are still to be found in the Plane that bears his name.

In 1871 a patent was issued to G. A. Warren for improvements of the Plane. The particular feature as stated in his patent was a lateral adjustment of the cutter by means of a circular knurled thumb nut and eccentric plate. His patent was later acquired by the Stanley Rule & Level Company. Fig. 9.

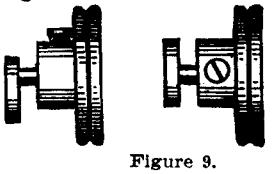

Figure 9.

The most important features of Mr. Warren's Plane were not even mentioned in the specifications of his patent. This was the first Plane to have correct balance, due to the proper placing of the cutter, and the knob, and the proper shaping of the handle. How accurately he satisfied the requirements of beauty and design and ease in handling is shown by the fact that the general design is followed today in the Stanley Bailey Plane.

Another feature of Mr. Warren's Plane was the use of a separable frog. Fig. 10.

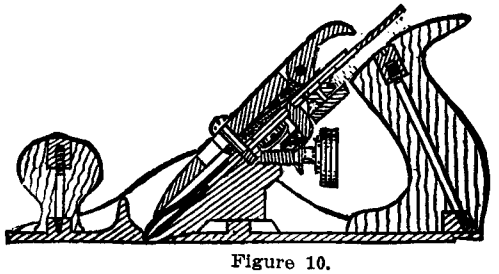

Figure 10.

A further improvement was made by J. A. Traut who was associated with the Stanley Rule & Level Company. In 1888 he was awarded a patent for the lateral adjustment of the Plane cutter. Fig. 11.

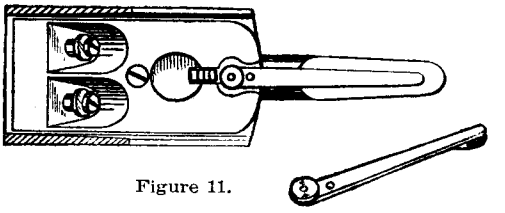

Figure 11.

Another improvement was the invention of the two step paralleled seating of the frog in 1902, by H. Richards, also associated with the Stanley Rule & Level Company. Fig. 12.

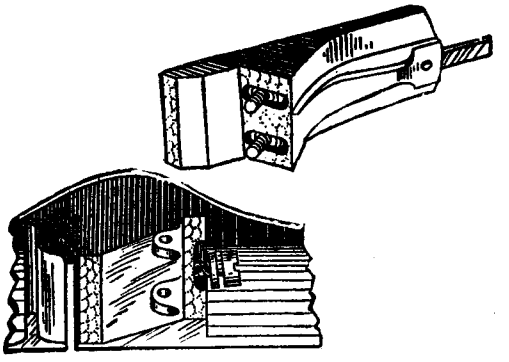

Figure 12.

The last major progress in the construction of the Stanley Bailey Plane was made by an employee of the same company, E. A. Schade, in 1910. His patent was an improved bearing on the bottom end of the frog which gave added strength to the frog base and prevented the slightest movement.

The most recent improvement in the Plane was the enlarging of the adjusting nut facilitating the adjustment of the cutter.

Another valuable addition is in having the knob fitted into an embossed ring in the casting which acts as a ferrule on the base of the Plane knob.

This is the story of the evolution of one of the most important tools for woodworking of our present day, the Stanley Bailey Plane.

It is not the invention of any one man but is a combination of the best features of many inventions of many men. It is a good example of that great Universal Law that applies to the mechanical as well as the natural world and decrees that only what is best and fittest shall survive.

THE STANLEY RULE & LEVEL PLANT.
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